WHAT IS CLAIMED IS:

1. An automatic focusing mechanism for mounting on a measuring device having a telescope for sighting a leveling rod with pattern marks marked thereon at an equal pitch between each mark, and a photoelectric device for converting an image sighted by said telescope into an electric signal to thereby automatically adjust a focus on the leveling rod, said mechanism comprising:

driving means for moving a focusing lens of said telescope from one end toward an opposite end of a movable range of said focusing lens;

pitch computing means for obtaining the pitch of the pattern marks of the leveling rod at that position on said photoelectric device which is capable of obtaining the pitch in a state before said focusing lens is focused on the leveling rod to thereby obtain a distance to the leveling rod based on the pitch obtained by said pitch computing means; and

fine adjusting means for moving said focusing lens to a position corresponding to the distance.

2. The automatic focusing mechanism according to claim 1, wherein said one end of the movable range of said focusing lens is a position corresponding to an infinite distance, and wherein said focusing lens is driven toward an objective lens to thereby obtain the pitch by said pitch computing means.

3. An automatic focusing mechanism for mounting on a measuring device having a telescope for sighting a leveling rod with pattern marks marked thereon at an equal pith between each mark, and a photoelectric device for converting an image sighted by said telescope into an electric signal to thereby automatically adjust a focus on the leveling rod, said mechanism comprising:

driving means for moving a focusing lens of said telescope to a predetermined position within a movable range of said focusing lens;

pitch computing means for obtaining the pitch of the pattern marks of the leveling rod on said photoelectric device to obtain a distance to the leveling rod based on the pitch obtained by said pitch computing means; and

fine adjusting means for moving said focusing lens to a position corresponding to said distance.